Publications Committee

BULLETIN

OF

THE UNIVERSITY OF TEXAS

NUMBER 294

FOUR TIMES A MONTH

OFFICIAL SERIES NO. 90 SEPTEMBER 8, 1913

Notes on Publications by the Faculty (April 1, 1912-April 1, 1913)

PUBLISHED BY THE UNIVERSITY OF TEXAS
AUSTIN, TEXAS

Entered as second-class mail matter at the postoffice at Austin.

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Cultivated mind is the guardian genius of democracy. . . . . It is the only dictator that freemen acknowledge and the only security that freemen desire.

President Mirabeau B. Lamar.

The benefits of education and of useful knowledge, generally diffused through a community, are essential to the preservation of a free government.

President Sam Houston.

FOREWORD

The University of Texas has published annually for several years a bibliography of the publications of its Faculty. This has been compiled by Professor R. A. Law, and printed in *The Record.* At a meeting of the Publications Committee in February of this year it was voted to establish a new series of bulletins which should supplement this annual bibliography by presenting abstracts or digests of all books and of the more important articles published by members of the Faculty. The first of these bulletins, which is herewith presented, covers the period intervening between April 1, 1912, and April 1, 1913.

It is to be regretted that a number of the more important publications of the Faculty for the period covered by this bulletin are not here represented, although requests for abstracts of all such articles were duly sent out early in the spring.

NOTES ON PUBLICATIONS BY THE FACULTY (APRIL 1, 1912-APRIL 1, 1913)

BOOKS

BARKER, E. C., *Associate Professor of American History* [with Professors C. S. Potts and C. W. Ramsdell]. *A School History of Texas.* Pp. xvi+384. Row, Peterson & Co., Chicago (May, 1912).

This is a school history of Texas intended for students of the fifth and sixth grades. The most distinctive feature of it is that it rejects the traditional organization based on the administration of presidents and governors, and attempts an organization of the historical material on a rational basis of state development. Thus the period since annexation is divided into (1) the period of early statehood, from annexation to the Civil War, (2) the Civil War and Reconstruction, (3) the State since Reconstruction. Considerable attention is also given to the development of the material resources of the State and to education and public charities. Many teachers' helps are furnished in the form of summaries, questions, suggestions to teachers, references for further reading, and a complete analytical outline of the subject. While the book is adapted to children of the fifth and sixth grades of the public schools, it is based on a comprehensive knowledge of the sources of the State's history.

DUNCALF, FREDERIC, *Adjunct Professor of History* [and August C. KREY]. *Parallel Source Problems in Medieval History.* Pp. xiii+250. Harper and Brothers, New York (1912.)

"This is a new kind of source book. Previous source books have provided matter that might be used in various ways, but mostly have stopped there. This one not only provides matter but organizes it around problems, and gives appropriate aid for work on the problems. It is quite as much a problem-book as source book. Five subjects are treated: the coronation of Charles the Great, Canossa, capture of Jerusalem in 1099, departure of the

university from Paris (1229-1231), and the coronation of Rienzo. On each subject are given, not isolated or scattered pieces, but parallel accounts. Preceding these are selected questions the student may bring to them, together with a brief statement of the historical setting of the problem and enough about the provenience of each account to enable one to read it understandingly and in a critical spirit. There are probably many who will think that the essential ends in view might be gained with fewer pieces, thus making possible a wider choice of subjects. However that may be, the authors of this book have done real service to the teaching of history. They have made a tool that should not only prove widely useful itself, but also greatly forward the problem-way of using the sources." [E. W. Dow, in *History Teachers' Magazine.*]

ELLIS, A. CASWELL, *Professor of the Philosophy of Education, and Director of Extension* [with Edwin J. Kyle]. *Fundamentals of Farming and Farm Life.* Charles Scribner's Sons, New York (1912).

One of the most significant features of this book is that it combines the expert knowledge of a professor of agriculture with an equally expert knowledge of educational principles. This collaboration is again fortunate in that the authors possess an intimate knowledge of rural life conditions and rural school problems. A third commendable characteristic is that the authors have drawn freely on the special knowledge of members of the faculties of the Agricultural and Mechanical College and the University of Texas. The volume contains two hundred and eighty-two illustrations, giving a pictorial story of all the varied industries and products of the farm and the history of their development. A series of "questions, problems and exercises" is given at the close of each chapter. Finally, it is noteworthy that the problems of the farmers' wives and daughters have at least been considered by those who study farm conditions. It is noteworthy, too, that "a very valuable beginning has been made in this text in enabling the school to give somewhat the same preparation for her life work on the farm to the farmer girl that is now given to the farmer boy."

HENDERSON, J. L., *Professor of Secondary Education, and Visitor of Schools. Admission to College by Certificate.* Pp. x+171. Press of Teachers College, Columbia University, New York (1912).

Chapter I of this study contains an announcement of the problem, and refers to related studies, sources and materials used, outside aid to the system, and to the general divisions of the work.

In Chapter II, tables of facts are presented for the purpose of showing that admission to college by certificate did not spring from chance device but that it was a logical outgrowth of well-defined educational conditions.

Chapter III presents different steps which have been taken in the development of various systems. The author visited nine state universities in the Middle West which have had much to do with the development of certificating systems, and examined the minutes of faculties, the minutes of boards of regents, and the publications bearing upon certification. The material thus gathered is presented as a background for the study of present-day conditions.

Chapter IV contains descriptions of ten types of certificating systems now used in the United States. This chapter also contains material bearing upon methods used in testing schools, the forms, content, and acceptance of certificate, tables showing subjects required or accepted for admission to college, and observations concerning legal enactments by different states.

In Chapter V an attempt is made to set forth the advantages and disadvantages of the different types of systems of admission to college used in the United States at the present time.

JAMES, H. G., *Adjunct Professor of Government. Principles of Prussian Administration.* Pp. 323. The Macmillan Company, New York (February, 1913).

This book deals with the system of internal administration in the Prussian state. Its purpose is to give a concise but adequate survey of one of the most efficient administrative systems the world has ever seen, in order that students of government and especially of administration in this country may have before them in convenient form the facts regarding this interesting prototype.

After an introductory chapter dealing with the fundamental

concepts and terms of the subject, there follows a chapter tracing the historical development of the Prussian administrative system from its beginnings to the present. Then comes a chapter devoted to the question of state administration and imperial administration arising from the position of Prussia as a unit in the German federal state.

The next chapter deals with the organs of administration from the monarch down to the lowest official, including the organs of local self-government as well as those of lower state administration. Their constitution and functions as well as their relations to each other are discussed in considerable detail.

The three succeeding chapters deal with the more purely legal aspects of the system, discussing the form and legal effect of administrative action, the protection accorded to the individual against unlawful acts of the administrative authorities, and the law of administrative officers. Especial attention is devoted to the system of administrative courts and their mode of action.

In order to give an idea of the actual scope of administrative action in Prussia, certain specific branches of administration are taken up in the succeeding chapters. First, there is considered the chiefly restraining action of the administration collectively designated as the police power. Then three fields of positive action are considered which are either particularly important or particularly interesting or both. These are the work of poor relief; of public education, primary, secondary, and higher, and measures for the benefit of the laboring classes, both preventive measures and means of compensation.

JUDSON, A. C., *Instructor in English. Cynthia's Revels, or, The Fountain of Self-Love.* By Ben Jonson. Edited with Introduction, Notes, and Glossary. Pp. lxxviii+268. Henry Holt & Co., New York (1912).

The text of *Cynthia's Revels* is reproduced exactly from the first folio, published in 1616, quarto variants and emendations being given in footnotes. A copy in the Yale University library furnished the basis of the text. As the folio of 1616, like many other Elizabethan books, was proof-read and corrected in the course of the printing-off, it was thought advisable to compare several copies of the folio, and to substitute from them certain more highly cor-

rected sheets for the corresponding sheets in the Yale copy. A complete list of all variations of the copies is given after the text.

The introduction contains sections dealing with the editions of the text, the date and reception of the play, the allegorical representation of Elizabeth, the satire, and the sources.

A comparison of the quarto and folio editions reveals the fact that *Cynthia's Revels* was enlarged by the addition of nearly a thousand lines before its republication in the folio, and that it also underwent a careful revision throughout, many passages being altered for the sake of vividness or precision. Of later editions of the play, Gifford's, published in 1816 and reprinted with slight improvements in 1875, is the best. It contains, however, many inaccuracies and unwarranted changes. Gifford's text corrupted by new errors is found in the Mermaid Series (1903).

From the quarto and folio title pages we learn that *Cynthia's Revels* was published in 1601, and had been first acted in the previous year. R. A. Small's more definite dating of the play by reference to passages dealing with Essex is shown to be inconclusive, since the passages in question have the marks of interpolations, and may have been inserted after the play was first acted.

Cynthia's Revels, though primarily a satire on courtly affectation, has as a secondary purpose the winning of Elizabeth's favor. In the last act, Cynthia (Elizabeth) mentions certain persons who have censured her conduct, which, she confesses, has indeed been severe toward such criminals as Actaeon and Niobe. A careful study of this and similar passages makes it clear that Jonson is attempting a defense of Elizabeth against those who are outraged at the execution of Essex (Actaeon). The doom accorded to Niobe, mentioned as a previous case of royal justice, doubtless has reference to the execution of Mary Stuart.

In *Cynthia's Revels* Jonson's chief aim is satire on city and court coxcombry; his method, an accentuation of the caricature used in *Every Man Out of His Humor.* Types of gallants—impudent, pleasure-loving, fantastical—appear before us, quarrel, court, gossip; in a word, act as they are in the habit of acting from day to day. They are condemned by Crites, the scholar, and by Arete, virtue, and are finally unmasked before Cynthia and compelled to abjure forever their immorality, affectation, and folly. A somewhat detailed examination of satire on courtiers, from

Edward Hake (1567) down to Marston and Middleton, shows the satire in *Cynthia's Revels* to be a natural outgrowth of the satire that preceded it, and not essentially different in tone. This does not, however, imply insincerity on Jonson's part. Other utterances, as well as all we know of his life and character, argue that vanity and affectation were genuinely hateful to him.

The fact that *Cynthia's Revels* belongs to the series of plays connected with "the war of the theatres" makes it necessary to investigate with special care the personal satire found in the play. A brief sketch of the conflict as it affected Jonson, Marston, and Dekker is given and the theory is advanced in regard to *Cynthia's Revels* that none of the characters are intended as consistent representations of Jonson's enemies, that *Cynthia's Revels* is, in fact, virtually free from personal satire except for a few thrusts at Marston and Dekker, found mainly in the Induction. It is true that two characters, Hedon and Anaides, are addressed by Crites in so personal and bitter a tone that one cannot help feeling that the memory of genuine encounters with his enemies was in Jonson's mind; yet the figures of these two men are so conventional and in every particular so unlike Marston and Dekker that, in spite of a passage in *Satiromastix* that may or may not be considered evidence for such identification, it seems unwarranted to assume that they represent Marston and Dekker.

Under sources, Jonson's debt to Lyly, to the classics, to sixteenth century satire, and to the character-books is discussed, and the possible influence of the old academic play *Timon* on certain passages is considered. A desire to champion Elizabeth against political adversaries seems to have suggested certain of Lyly's court comedies as models to Jonson, who besides betraying a general indebtedness in method also shows in specific passages the influence of *Endimion* and *Gallathea*. His debt to the classics is smaller than in many of his plays, though passages throughout the play exhibit the direct influence of Juvenal, Martial, Aristophanes, Plato, and Vergil. Several character-sketches, which in style and spirit are remarkably like those written later by Hall, Overbury, Earle, and others, show in some measure the influence of Theophrastus.

The Explanatory Notes include whatever has been thought valuable in previous editions. Of Jonson's previous editors, Gifford

alone has undertaken any considerable elucidation of the text, and his notes are confined mainly to classical borrowings. The notes most helpful to an understanding of the play are probably those treating customs and fashions of the time and those explaining allusions to the works of contemporary writers. The edition is provided with glossary, bibliography, and index.

LAVENDER, ROBERTA F., *Instructor in Latin. Latin Composition.* Pp. 77. Von Boeckmann-Jones Co., Austin (1912).

A text in Latin Prose Composition intended for senior high school and freshman college or university classes. Each lesson consists (1) of an outline (with grammar references), giving in graphic form a comprehensive view of related principles; (2) a set of sentences based upon Caesar and Cicero in illustration of these principles.

LAW, ROBERT A., *Adjunct Professor of English. Henry the Sixth, Part III.* Edited with Introduction, Notes, and Glossary. Pp. xix+159. The Macmillan Co., New York (March, 1913).

This is one of the volumes of "The Tudor Shakespeare," published in forty volumes under the general editorship of Professors W. A. Neilson of Harvard University and A. H. Thorndike of Columbia University. In these volumes the explanatory and critical notes are unusually concise and the glossaries correspondingly large. The introductions cover questions of date, sources, relations to contemporary plays, interpretation, and in particular the stage history of the play involved. The introduction to this play summarizes briefly the accepted theories as to Shakespeare's share in the three parts of *Henry the Sixth,* and as to his probable collaborators. The most likely date for composition is 1592; the source for Part III is immediately an older play, but ultimately the prose chronicle of Halle or of Holinshed. This play as a whole has never attained large popularity on the stage, but several scenes from it have been taken over into Cibber's version of *Richard III,* which has been for two centuries a favorite acting play. Four and a half pages of the introduction are devoted to the chronicle history play as a type: its popularity and the reasons therefor, its structure, and its significance. The notes contain a

chronological list of the historical events of this play, and suggestions as to literary relations of particular passages.

MARSH, FRANK BURR, *Instructor in Ancient History. English Rule in Gascony, 1199-1259, with Special Reference to the Towns.* Michigan University Historical Studies, No. 2. Pp. xi+178. G. Waln, Ann Arbor, Michigan (1912).

This study is an attempt to explain why, on the break up of the Angevin Empire under John and Henry III, the English crown, although losing its northern possessions, was able to retain a large district in the south of France. The explanation of this which is here put forward is the loyalty of the towns to the English connection. This loyalty in turn is explained by the commercial interests of the burghers.

The most serious crisis in the fate of Gascony came in the early part of the reign of Henry III. During this time, the province was several times attacked, and there were intrigues and revolts on the part of the nobles. During much of this time, also, the English government in Gascony, at whose head stood the seneschal, was pitiably weak. Yet in spite of weakness, anarchy, and foreign attack the English connection could not be broken. The author seeks to show that this was due chiefly to the townspeople and especially to the two leading cities of Bayonne and Bordeaux. These two towns steadily supported the English cause, closing their gates to invaders, advancing numerous and important loans to the English king, and sending their militia to his assistance.

The motives of this loyalty are found in the commercial interests of the towns in question. The chief article of Gascon trade was wine. Bayonne and Bordeaux were the great centers of this commerce, and England furnished the chief market. To keep this market open, the towns adhered steadily to the English, and in return received valuable commercial privileges and exemptions which bound them still more closely to the Plantagenets.

The towns were themselves, moreover, divided into parties whose rivalries at times threw the province into confusion. These parties have usually been regarded as aristocratic and democratic factions, but in this study an attempt is made to show that commercial interests had their part in the matter and that one faction was far more deeply involved in the English wine trade than the other.

The work throughout is based upon the sources and especially upon charter, patent, and close rolls published by the English and French governments, though use is made of numerous other documents. From these the history of the English administration and its relations to the towns and townspeople is examined in as much detail as the sources permit.

PAYNE, L. W., JR., *Adjunct Professor of English. Southern Literary Readings,* edited with Introduction, Notes, Biographical Sketches, and Some Thought Questions. Pp. xiv+478. Rand McNally & Co., Chicago (1913).

This book is a literary reader prepared to fill the break in reading which occurs between the seventh grade of the grammar school and the first year of the high school. The constant aim of the editor has been to select Southern literature suitable to young readers and at the same time representative of the best that has been produced in this section of our country. Every selection has been subjected to strict literary canons of judgment, and in every case where it was at all feasible the selections have been given in their entirety, in order that they may be judged as literary units.

The material has been arranged in loose chronological order in three larger divisions: (I) Antebellum Writers; (II) War Period and Reconstruction Writers; (III) Recent Writers. Both prose and poetry are given, and as far as practicable all the various kinds of prose composition and all the types of poetry have been represented. Among the antebellum writers are included Key, Poe, Audubon, Simms, Wilde, Meek, O'Hara, Mirabeau B. Lamar, Edward C. Pinkney, Philip P. Cooke; among the war and reconstruction writers, Pike, Thompson, Ticknor, Timrod, John Esten Cooke, Hayne, Randall, Preston, Ryan, L. Q. C. Lamar, Lanier; among the recent writers, Irwin Russell, Grady, Allen, Harris, Craddock, Hopkinson Smith, Stark Young, O. Henry, Hilton R. Greer, William L. Chittenden, H. S. Edwards, Cawein, Peck. In all, there are thirty-four authors represented by seventy-five selections. For each author there is an introductory biographical sketch, and for the most prominent authors—thirteen in all—there are full-page portrait engravings. The notes to the book are divided into three sections: namely, introductory note, in which is given the history and occasion of the publication or composition

of the selection; explanatory notes; and thought questions and literary analysis. The thought questions are intended to be suggestive to the teachers and helpful to the students in gaining the literary point of view.

The book is substantially and attractively bound in green buckram. It will find its place not only as a text-book in the schools, but also as a reference work in private and public libraries.

POTTS, C. S., *Professor of Government.* [See under Barker, E. C.]

RAMSDELL, C. W., *Adjunct Professor of American History.* [See under Barker, E. C.]

SUTTON, WILLIAM SENECA, *Dean of the Department of Education and Professor of Educational Administration. Problems in Modern Education: Addresses and Essays.* Pp. 257. Sherman, French & Co., Boston (1913).

The "Foreword" by the author states that these twelve essays were originally written to meet the demands of practical situations, and were, therefore, concerned not so much with the presentation of general theories, as with the application of well-recognized educational principles. There is no unity among the various essays except the general principle of "concrete idealism," and there the author has no idea of giving a systematic outline of the problems of Education. The titles indicate rather clearly the trend of each separate essay.

I. *The Attitude of the Man of Science Toward Educational Criticism.*—"The most imperative need at the present day is the development of the truly scientific spirit among those who are charged with the direction of educational institutions" (p. 5). An educator must look at the complex aspects of the school in a purely rational way, without scholastic bias, but replete with knowledge, and a quick, warm svmpathy for burgeoning life.

II. *Some Contributions of the Nineteenth Century to Educational Progress.*—It is first pointed out that the ultimate aim of education has changed from the pietistic ideal of the Eighteenth Century to the fuller aim of "complete living" of Spencer, "morality" of Herbart, or self-realization of the Hegelians. During the course of the century the specific aims of the elementary, secondary,

and higher schools have become clearly differentiated. There has likewise been a grand transformation of the curricula of the schools. In the field of discipline, love and rational insight have taken the place of martinet rule and the birch. The prime contribution made during the period has unquestionably been the development of the application of rational method to the study of the educational process, and the extension of education to the masses of the people.

III. *Herbart Spencer's Individuality as Manifested in His Educational Thinking.*—This essay is a short statement of the importance of Spencer as an exponent of educational ideas.

IV. *The Determining Factors of the Curriculum of the Secondary School.*—In discussing this important subject Dean Sutton lays down the thesis that the demands of modern civilization must be in educating youth; physical culture, the prime consideration, the study of human nature, and natural science are required for this reason. The second determining factor is the individual. This factor makes imperative a wise ordering of the elective system.

V. *The Unification of College Degrees.*—A series of capital arguments are elaborated in favor of granting the A. B. degree for all university courses. The author traces the historical evolution of degrees, and vigorously maintains the cultural equality of all subjects in the university curriculum. The course of events since this essay was first written indicates that it was in harmony with coming progress.

VI. *The Organization of the Department of Education in Colleges and Universities.*—This is the longest of the essays, for several reasons; and it is also the most important contribution in the series. The historical phase is well discussed, but the present status of the professional education of teachers is more fully elaborated. Though now slightly out of date, it shows what giant strides the study of education as a science has made, and the increased demand for professional training of all teachers.

Among the remaining essays two touch upon the education and influence of women. Several others are concerned with the religious aspects of Education. There is also a trenchant discussion of the "Contributions of the Late William T. Harris," a close personal friend of the author. The volume ends with a paper on Negro Education.

YOUNG, STARK, *Adjunct Professor of General Literature. Addio, Madretta, and Other Plays.* Pp. 137. Charles H. Seigel & Co., Chicago (1912).

A volume comprising seven plays: *Addio, Madretta, The Star in the Trees, The Twilight Saint, The Dead Poet, The Seven Kings and the Wind, The Queen of Sheba.*

ARTICLES AND PAMPHLETS

CALHOUN, GEORGE MILLER, *Instructor in Greek.* "Athenian Clubs in Politics and Litigation," Bulletin of the University of Texas, No. 262, pp. vi+172 (January 8, 1913).

In Athens, during the time of the republic, were many hetaeries, or political clubs, which were intended to further the interests of their members in politics and in the law courts by a system of mutual support. So effective did they prove in the attainment of these ends that they became a factor of tremendous importance in the public life of the Athenians. Heretofore little has been known regarding the details of their organization or the precise methods by which they attempted to gain their ends. To fill this gap in our knowledge of ancient Athenian institutions is the chief purpose of this study.

The theory of Vischer (Basel, 1836) that these clubs were first organized in Athens at the beginning of the fifth century by oligarchic conspirators against the newly established democracy is erroneous. They were really of great antiquity, and their beginnings may possibly be seen in the relationship which existed between the primitive chieftains of Homeric times and their comrades. In historic times these hetaeries were found in all political parties, but the majority of them seem to have been oligarchic in their tendencies. In many cases their interests and activities were partly social as well as political; they were organized upon a basis of age, congeniality, and social standing, and seem to have been for the most part comparatively small in size. Some clubs, especially those in which the social features were important, had appropriate names. The fidelity of the members was assured by oaths and pledges which were probably assumed at initiations, and the bond of club membership was regarded as extremely solemn and binding.

The Athenian judicial system afforded many opportunities for sharp practice and questionable manoeuvering, and club associates did not hesitate to take advantage of these in order to aid a comrade. Sometimes they contributed money with which to fight a case; at other times they gave their personal service. They might aid a litigant by bringing a "counter-suit" against an opponent, by creating sentiment in his favor, by buying off, coercing, or even

assassinating an accuser, by bribing or otherwise influencing the jurors who were to sit in the case, by testifying or pleading in his behalf, by dissuading or coercing the witnesses and advocates of an opponent, by persuading or otherwise inducing officials to act improperly, and in a number of other ways. Among the clubs which are found pursuing these activities were organizations of professional "pettifoggers," of which the members were experts in jury-fixing and in the introduction of perjured testimony and made their living by sharp practice in the courts.

Even more striking was the role played by the hetaeries in the political field. In Athens the law courts were a recognized medium of political attack. The clubs, familiar with the tricks of litigation, found this mode of attack easy and effective, and political opponents were often got out of the way by accusations and indictments. In some instances assassination and violence were employed. Legislative assemblies of all degrees of importance, from township meetings to the great general assembly of the Athenians, were at times manipulated by the clubs. Caucuses were held, plans worked out, and speakers chosen; assemblies were "packed" with club members, who made speeches, applauded, jeered the speakers of the opposition, and voted in "blocks." Assemblymen were canvassed and bribed; officials were intimidated or corrupted, and frauds were perpetrated even in the voting. By these and other schemes, the clubs were also able at times to control elections and to secure the success of their candidates, or to procure the ostracism of political opponents whose influence they feared. And at times the more extreme oligarchic clubs did not limit their activities to manipulation, but entered into treasonable conspiracies against the state, and endeavored to effect their ends by betraying Athens into the hands of her arch-enemy, Sparta.

In Athens as in our own country, these corrupt practices were no doubt the exception rather than the rule, and it must not be forgotten that there were many ways in which clubs were able to promote the interests of their members, either in politics or in the courts, by strictly legitimate means. But in many cases they did not hesitate to employ the most corrupt methods. There are few political and judicial abuses of our own time that have not parallels in the history of ancient Athens.

CAMPBELL, KILLIS, *Associate Professor of English.* "Some Unpublished Documents Relating to Poe's Early Years." *The Sewanee Review,* XX, pp. 201-212 (April, 1912).

The biographers of Poe have either not had access to or have ignored the papers and office books of the Richmond firm of Ellis & Allan, of which Poe's foster-father, John Allan, was a member. Among these papers (now in the possession of the Library of Congress at Washington) are a number of letters and other documents dealing with Poe's early life in Richmond and London. Among the letters is one from a maternal aunt of Poe, Mrs. Herring, which makes it clear that Poe's Baltimore relatives believed that he had been legally adopted by the Allans. Another letter, written by John Allan in 1824, shows that Allan, who had at first been a warm admirer of his foster-son, had by this time quite lost sympathy with him: he is described as "miserable, sulky, and ill-tempered," and as possessing "not a spark of affection" for the Allan family. Still other letters have to do with Poe's life at the University of Virginia, and prove that it was not alone Poe's gambling debts that John Allan refused to pay. Among the bills and accounts belonging to the collection are some of those for Poe's schooling at Dr. Bransby's near London and several for his tuition with his Richmond schoolmasters, Joseph H. Clarke and William Burke. The present article sets forth these documents for the first time.

CAMPBELL, KILLIS, *Associate Professor of English.* "The Poe Canon." *Publications of the Modern Language Association of America,* XXVII, pp. 325-353 (September, 1912).

This paper discusses the growth of the Poe canon, inquires into the authenticity of sundry poems, essays, and tales that have been attributed to Poe on inconclusive evidence, and endeavors to show where other additions to the corpus of Poe's writings are likely to be found. Owing to the circumstances under which Poe published, a good many of his miscellaneous writings escaped the attention of his early editors: the first collective edition of Poe (that of R. W. Griswold, 1850-1856) contained 184 items; the latest edition (that of Professor James A. Harrison) contains over four hundred. Among the items attributed to Poe by one or more of his editors, four poems, a tale, and half a dozen critical

notices are proved to be ungenuine; and other poems and essays are shown to be of doubtful authenticity.

CASTEEL, D. B., *Adjunct Professor of Zoology.* "The Manipulation of the Wax Scales of the Honey Bee." U. S. Department of Agriculture, Bureau of Entomology, Circular No. 161 (October, 1913).

The bee and the ant with their different but equally complicated social lives have long been recognized as worthy rivals for the interest of the naturalist. The illuminating studies of Janet, Forel, Wasmann, Wheeler, Fields, and others have given us many interesting facts concerning the life histories of the different species of ants; and a host of other students, including Cheshire, Cowan, and Maeterlinck, have through their penetrating observations greatly enriched our more general knowledge of the social life of the honey bee.

The bee has always enjoyed a distinct advantage over its rival, in that the honey which it so diligently prepares, and which has so high a commercial value, has served as an additional incentive to the naturalists in their efforts to unravel the many secrets of its life history. A slight acquaintance with the great mass of literature on the bee might lead one to conclude that all of the facts of importance had been brought to light, but a careful reading of any one of several recent papers on the behavior of this insect will reveal the fact that our knowledge is really very imperfect, even concerning some of the apparently commonplace events of its daily life. This applies particularly to some of the most important acts in the storing of pollen and honey and in the making of wax.

The average zoologist has, no doubt, long believed that such important steps in comb building as the manipulation of wax, and in pollen storing as the transferring of the pollen to the pollen baskets, were well understood by the apiculturists; but a perusal of this and the succeeding paper under review reveals just how imperfectly understood are these two phases of bee behavior, even to the bee specialist. The reason for this lack of exact information is by no means to be attributed to superficial or faulty observations; for studies on the behavior of insects, and on the bee in particular, are frequently attended with the greatest of difficulty.

To make this evident, we need only call attention to the fact that many actions occur while the bee is on the wing, or else they take place with such lightning-like rapidity as to all but elude the observer. Any successful observation of a particular movement in an intricate process like that of wax manipulation must therefore be perfectly timed.

As is well known, the worker bees alone produce the wax. The wax appears in the form of scales upon the wax secreting plates, which are situated on the ventral side of the worker bee's abdomen. There are four pairs of these plates, or eight in all, and the liquid wax, which is secreted by glands, exudes through pores perforating the wax plates, and upon coming in contact with the air hardens to form the wax scales.

The principal questions of interest, and the ones to which the writer of the paper gave attention, center about the manner in which the wax scale is manipulated in transferring it from the wax plate to the comb. It is shown conclusively that this is accomplished by the individual secreting the scale. When completed, the scale is removed by means of spines situated on the distal end of the first tarsal segment of the hind leg. The scale becomes impaled upon the spines, and is then carried, by a forward flexure of the hind leg, to the mouth parts, the fore legs usually assisting in the process. The mandibles or jaws masticate the wax, after which it is added to the edge of the comb. Later it is reworked by other bees, and eventually sculptured into cells.

One of the more interesting points brought out in the paper relates to the function of the so-called wax shears, a pincer-like structure located at the joint between the tibia and first tarsal segment of the hind leg. It has been supposed that this apparatus functions as a wax scale remover, either snipping off the scale or serving as a pair of pincers by means of which the scale could be drawn from the wax plate. It is conclusively shown in the paper that this structure has nothing to do with the removal of wax scales, but is concerned with an entirely different function, which will be referred to in the next review.

J. T. P.

CASTEEL, D. B., *Adjunct Professor of Zoology,* "The Behavior of the Honey Bee in Pollen Collecting." U. S. Department of Agriculture, Bureau of Entomology, Bulletin No. 121 (December, 1912).

The failure to support the older interpretation of the supposed function of the so-called "wax shears" naturally raised the question of the true function of this obviously highly specialized structure, and in seeking the answer to this question, the writer was led to a study of the behavior of the bee in pollen collecting; for it was discovered that the wax shears are instruments employed by the bee in the important step of loading the pollen baskets.

No doubt everyone has observed that the returning bee carries the collected pollen in the form of masses or pellets on the outer surfaces of the pair of hind legs. The mass is held in position by the pollen basket (technically called the corbicula), located on the outer surface of the proximal tarsal segment, and consisting in the main of a fringe of stiff hairs surrounding a smooth or hairless area.

The paper under review gives a detailed account of the manner in which the pollen is collected from the flowers, assembled in the pollen baskets, and finally transported to the hive and deposited within the comb cell. A number of the previous accounts of these processes are found to be inaccurate or entirely erroneous. Thus the almost universally accepted view that in loading the baskets the bee crossed one hind leg upon the other is found to be wrong. Instead, the pollen which reaches the basket is forced up from below by the proper manipulation of the so-called wax shears. Furthermore, it is shown that the dry pollen is not moistened in assembling it by secretions from glands scattered over various parts of the body, but rather that the pollen grains are rendered cohesive by the addition to them of a fluid from the mouth, consisting mainly of honey.

In conclusion, it may be of interest to the reader to know that the moving picture film has recently come into use in Europe for studies of this kind. By the proper use of this apparatus, no doubt many of the complicated movements of insects can easily be made out.

J. T. P.

DODD, E. L., "On Ordinary Plane and Skew Curves." Bulletin of the University of Texas, No. 222, pp. 36 (June, 1912).

Dr. Dodd shows that the conditions of continuity, differentiability, and convexity imposed by Pringsheim* in defining an ordinary arc and its function $y = f(x)$ are not coextensive with the conditions used by Du Bois-Reymond,† who, in place of convexity, requires that there should not be an infinite number of maxima with respect to any straight line. But Pringsheim's conditions necessitate the continuity and univariance of the first derivative except at the end points of the interval, where being univariant it may become infinite. Pringsheim's ordinary arc is Osgood's‡ regular arc defined by

$$x=\varphi(t),\ y=\psi(t),\ t_0\leq t\leq t',$$

where φ and ψ are continuous and have continuous first derivatives which do not simultaneously vanish in $(t_0t',)$, with the added condition that ψ'/φ' be univariant in $(t_0t',)$.

The definition of an ordinary arc is then restated to make it invariant to rotation, a generalization for three dimensions is given, and finally straight lines, ordinary plane arcs and ordinary skew arcs are distinguished by means of the Wronskians of the first derivatives of the defining functions, and the minors of the Wronskians.

DODD, EDWARD L., "The Least Square Method Grounded with the Aid of an Orthogonal Transformation." Jahresbericht der Deutschen Mathematiker-Vereinigung, XXI, pp. 177-183 (November 21, 1912).

Dr. Dodd establishes the least square method for the case in which the observation equations are linear, as a consequence of the Gaussian probability law, without recourse to infinite series, approximations, or a discontinuity factor.* Only those values for the unknowns are considered which can be obtained from linear combinations of the observation equations. It would be futile to consider all possible values for the unknowns in this connection;

**Encyklopädie*, II, A. 1, p. 22.
†*Journal f. d. r. u. a. Math.*, vol. 79, p. 32.
‡*Lehrbuch der Funktionentheorie*, p. 43.
*See Czuber, *Theorie der Beobachtungsfehler*, p. 232.

for under the Gaussian law, there are no "most probable values" for the unknowns.

Let x be the true value of one of the unknowns and an approximation for x, obtained from a linear combination of the observation equations, with multipliers X. Theorem: The error of each measurement being subject to the Gaussian law, the probability that the error $x - \xi$ of ξ will lie in any given interval $(-\alpha, \alpha)$ is greatest when the X's are so chosen that ξ has the value given it by the least square method.

There being n observation equations, the required probability is expressed as an n-fold integral. This is then simplified by an orthogonal transformation—"rotation"—making the two "parallel planes" which bound the region of integration, "perpendicular" to an "axis of co-ordinates." If the measures of precision are different, a similitude transformation is first used.

FAY, EDWIN W., *Professor of Latin.* "Is Greek -sunê cognate with Sanskrit -tvana-m?" *Indo-Germanische Forschungen,* XXIX, pp. 413-418.

Challenge of the identification, accepted for the last sixty years, of these abstract-forming suffixes. In point of phonetics Gr. -su- cannot, without some manipulation, be set down as equal to Skr. -tva-. Skr. -tva-m and -tva-na-m lend themselves to interpretation by 'power'; cf. Grassmann's actual definition of vrsa-tvam by 'virile power'. Greek hippo-sune, hitherto interpreted by 'horsemanship', was compared with hippo-so(v)as, 'horse-driver', and redefined as 'horse-driving'; cf. Lang Leaf Myers's rendering of Il. 15, 679-681: "and even as a man right skilled in horsemanship [horse-driving] couples four horses out of many, and —— drives along the public way." If the current interpretation were correct, hipposune ought to mean 'horseship', not 'horsemanship'.

From words like hipposune and machlo-sune, which in Il. 24, 30 clearly means impudicarum consectatio—a definition that incidentally confutes the Aristarchean denial of the authenticity of lines 29-30— -sune was extended by irradiation to other nouns, after proportional analogies such as hippotes: hippposune::despotes: desposune. The fact that the Greek abstracts always end in -osune, like the assumed pattern words hipposune and machlosune, offered

as telling evidence for irradiation of the suffix. Note modern instances like motor-neer after engin-eer, electro-lier after chandel-ier.

Etymologies suggested in passing: (1) Skr. sa-tvan-, a compound of sa-=Lat. 'co'-+tvan- quasi 'ops', the whole='compotes, copiae'. (2) a. In Gr. thar-sunos the second member may='incitans'; b. while in pi-sunos, from pi[so]-sunos (-so- lost by "haplology", to avoid a stuttering effect with the following -su-) the prius piso- may come from pithyo-. By their composition these words should mean 'inspiring boldness,—trust', but actually are active, ='trusting' rather than 'trusted.' This shift was due to their being reciprocals like Eng. friend which, though an active present participle by form, implies the 'beloved' even more than the 'loving'; conversely Lat. gratus, a past and passive participle, implies 'loving' as well as 'loved.'

FAY, EDWIN W., *Professor of Latin.* "Catullus and Jake," *The Oxford and Cambridge Review,* no. 20, pp. 159-167 (June, 1912). (Reprinted in *Littell's Living Age,* August 7, 1912.)

Catullus' 13th poem is a Dutch-treat invitation to dinner, bidding a friend dine with him on condition of bringing all the victual. Catullus undertakes, however, to supply the perfume "showered on his mistress by all the Venuses and Cupids." We find an apparent echo of this last sentiment scratched on an old pomade pot dug up by the Tiber. But the words used are older in form than the period of Catullus, to-wit:

Amor med Flaca dede=Love me on Flacca bestowed.

Contention: the inscription is not archaic but archaistic, concocted by some wit for his mistress, a précieuse who may have set up a family connection with Quintus Horatius Flaccus. Horace's invitation to Virgil (Ode 4, 12) was also a Dutch-treat invitation, in which, with inversion of Catullus, Virgil is charged to bring the perfume for the dinner, while the host would supply the viands. Contention: the Virgil addressed could have been no other than the poet. Echo of these Dutch-treat invitations in a song that Jake (a general purpose sort of coachman that my father kept during the 70's and 80's) used to sing:

I've got a little house down in town
An' I want you to come fo' to see me;
Eat yo' breakfast 'fo' yo' come, bring yo' dinnah wid yo'
An' skip out befo' suppah time.

FAY, EDWIN W., *Professor of Latin.* "Composition or Suffixation." *Zeitschift für vergleichende Sprachforschung,* XLIV, pp. 137-141.

Prehistoric suffixes, like many English suffixes subject to historical verification, likely to have originated in words first used to form a posterius (second member) of composition. Lat. legitumus aedi-tumus not superlatives but compounds=law-keeping temple-keeper; mari-tumus fini-tumus=sea-cleaving border-cleaving (cf. Germ. mark-scheide grenz-scheide='finis'). Note the use of the Greek verb temnei 'cuts' as in Aeschylus Suppl. 258 "s u n t e m n e i d' horos hugras thalasses"=a boundary of flowing sea t e r m i n a t e s the land; Euripides, Elek. 410 "amphi potamon Tanaon Argeias h o r o u s t e m n o n t a gaias Spartiatidos te gês"=about the river Tanaos, f o r m i n g b o u n d a r i e s twixt Argive and Spartan land.

Tautological compounds of the type of Eng. road-way sledge-hammer (add seine-nets withvine pinfold, Germ. schellhengst), in which the second member is almost an exact duplicate of the first in sense, are not uncommon. So Lat. locus from OLat. stl-ocus, may be defined by Germ. stell-ort; ori-go as start-beginning; vor[r]ago as swallow-chasm. Lat. imago is cognate with (or borrowed from?) Gr. ek-magma and has no real connection with Gr. lachana 'pot-herbs', i. e. dug from the ground, cf. lach-im- is pronominal like Lat. ita item.

Plant-names in -ago: those in -lago have a posterius cognate with Gr. lachana 'pot-herbs', i. e dug from the ground, cf. lachanei anei 'digs'. Compounds like cunilago shortened by haplology from cuni[la]-lago gave rise to the notion that cunilago was a derivative of cunila. In some words the apparent suffix in -agen- (nom. in -ago) may be a posterius derived from the verb agere 'to drive', cf. Germ. trieb='shoot of a plant' from treiben, 'to drive'. [Cf. agere in the Latin writers on agriculture with such objects as gemmas, germina, florem, coliculum (shoot)]. In a pair like olea, 'olive', and oleago, 'ground olive', the suffix -gen- looks to mean 'kind'. Names of pulverized substances in -agen- may have a posterius cognate with Gr. akte, 'corn meal'. In names of liquids -lagen- may be cognate with lacus, 'water', or with O Norse slag[i], 'ooze'. In lumbago, -ago belongs with Eng. ache. In virago, 'hussy', the prius was wisa, 'service', posterius -agen-,

'agile'; for(r)ago, 'colored thread used as a marker', is from for(a)- 'stop'+ragen- 'color'; carti-lago is from carti-, 'hard'+ lagen- (:Gr. lagaros, 'slack') 'pliant'.

In Vesperugo, 'evening star', ferrugo, 'iron rust', etc. -ugen- (: Gr. auge, 'brightness')='gleam', cf. lanugo 'down' with -ugen-= 'nap'; salsugo, 'brine', either=sal, 'salt'+sugen- (:sucus) 'juice', or=sals(o)- 'salty'+ ugen-, 'water' : Skr. ojas, 'water', Gr. hugros, 'moist'); asperugo, 'a rough-leaved plant', has in -rugen- a cognate of ruga, 'wrinkle'.

In remeligo, 'loiterer', reme- is cognate with Skr. ramate, 'stands still', and -ligen- with Lith. linguoti, 'to sway, rock'; vertigo, 'dizziness', from verti-igen-='with turning moving'; lol-ligo, 'cuttle fish', from los-, 'loosing'+ligen, 'soot' (:Gr. lignus), cf. O. Eng. wase-scite, cuttle fish, lit. 'ooze-discharger'. The same -ligen- in fuligo, 'soot', uligo, 'moisture', etc.

Diseases: robigo, 'rust in wheat', with rob='red' and -igen-= 'blight' (:Gr. aigle, 'shine', Lat aeger, 'sick', i. e., 'feverish'); lentigines, 'freckles', orig.=lentil-stigmata, posterius -tigen-, cognate with Gr. stigma; petigo, 'mange', from (s)peti-, 'skin' (: Gr. spatos)+-tigen-, 'stigma'; porrigo, 'dandruff'=borrowed Gr. psora 'dandruff', extended by irradiation with petigo, etc.; viti-ligo 'tetter', from viti-, 'blemish'+ligen : Gr. leichên, 'tetter'; plant names in -igen-: si-ligo 'white wheat' from sine 'without+ligen 'soot, smut' (as in lolligo, above); con-siligo 'lungwort'=with wheat, i. e. tubercles, name of a plant used, by symbolic homoepathy, word magic, as a remedy against tuberculosis. Scaturrigo 'gushing spring' from scatur (formed like satur)+rigen: rigat 'flows'; mel-ligo 'honey-sap' contains ligen: liquor.

The Lat. suffix -ulentus: not from -olentus 'smelling of, reeking with, abounding in'. Plautine vinolentus not='drunken' but vino violentus factus, and is patterned on violentus which comes from vi(v)olentus, a participle to the root wel in Gothic wilwan 'to rob': Lat. vellit 'plucks' and volare 'to rob'. In opulentus we have haplology from o[pi]-pol[l]entus='in body powerful'. Irradiation from violentus to vinolentus by mere word jingle; from vinulentus to temulentus and mustulentus by synonymy; from opulentus 'wealthy' to luculentus 'brilliant' (with wealth) etc. In pestilens, orig.=pestifer 'ruin bringing', we have a compound, with haplology, pes[ti]-tulere 'to bring the pest'.

In passing, Gr. bothros 'pit', was explained from bo(r)thros; connection of Lat. remulcum 'tow-rope' with Gr. rhumoulkei 'tows' again justified, and the shortening of a in Celtic vagina from Lat. vagina adduced as evidence of my contention in *Indo-German. Forschungen* 26.26 that Lat. vowels, at least dialectally, were shortened before the penultimate accent. The suffix -went- may have started in the sept of Lat. cruentus 'bloody'. Indo-European compounds with prius in -I- matching adjectives in -RO- may contain an abstract, so that Skr. çiti-pad e. g. started as 'foot o' whiteness' not as 'white-foot'.

FAY, EDWIN W, *Professor of Latin.*

a. Vedic Mataro-çvan="matariae puer" *Zeitschrift für vergl. Sprachforschung*. 45, 134-135.

b. The Vedic hapax suçiçvis. *Journal of the American Oriental Society*, 32, 391-392.

Analysis of two names of Agni, the Vedic god of fire. In the first matari- was correlated with Lat. materia 'timber', and both derived from an agent noun (t)mater 'cutter' (of timber). The initial t of tmater was lost by haplology with the second t. Solmsen's suggestion that materia meant 'mother wood' was rejected in a and inverted in b to yield the suggestion that mater 'mother' was originally tmater 'cutter' i. e. the cutter and apportioner of the products of the chase, functioning in Indo-European times as did the wives of the North American redskins.

In b. the epithet su-çiçvis is derived from çusi-çvis or çusiçiçvis=aridi (sc. ligni) puer. In Sanskrit the sibilants s ṣ (sh) and ç (pronounced as s or sh) are subject to interchange in contiguous syllables.

Behind both these etymologies stands the fact that the sacred fire among the Hindus was always produced by friction, whether of a drill stick in a socket slab or of a sort of plane stick working in a groove, and a description of Agni as son of the timber or of the dry wood is thoroughly appropriate. The second member of both compounds comes from the root represented in Lat. in-ciens Gr. eg-kuos 'enceinte'. Cf. also the epithets of the fire drill vane-raj=in the wood king; vane-sah=in the wood lord.

Attention was called in b. to the etymology I proposed in Trans. Am. Phil. Assoc., 41, 25 for Skr. osa-dhis as originally='burn-

plant', subsequently plant, by noting that Gr. phruganon from the verb phrugei 'roasts' could only have meant, to start with, 'roaster' or 'spit' or some such thing, and in all its early usage did mean 'dry sticks, faggots for burning', whereas in the botanical classification of Theophrastus it designated 'shrubs' as opposed to trees, etc.

FAY, EDWIN W., *Professor of Latin.* "Culture in Education." First printed by the Hogg Organization for distribution in the high schools of Texas. Next delivered, with considerable modification, before the Phi Beta Kappa Society of Tulane University (Commencement of 1912) and printed in *The Tulane Graduates' Magazine,* I, pp. 91-108. Reprinted in the original form in *The University Record,* XI, pp. 357-369.

FAY, EDWIN W., *Professor of Latin.* "Derivatives of the root stha in Composition." *American Journal of Philology,* XXXIII, pp. 377-400; XXXIV, pp. 15-42.

General reluctance to admit composition rather than suffixation (see also above). Contention: when a so-called derivative has a clear case-form or adverb before its "suffix" that suffix must have originated as a compounding member duly correlated with the preceding case-form. Gr. eari-nos e. g.=in spring migrating proves that -nos (: Skr. ni 'ducere, ziehen') originally meant migrating in full, and was not a mere suffix. As to Schulze's derivation of Gr. pezos 'footer' from ped-yos 'foot-goer': "it is simply impossible not to believe it, for the reason that it is transparent, obvious—and for no other reason in the world." Cf. prepositions followed by their proper cases and then by -yos 'going' in Gr. em-meni-(y)os 'in a month going', Lat. e-gregi-(y)os 'out of the herd going' (=distinguished). The root stha was rather sthay Gr. pezos 'footer' from ped-vos 'foot-goer': "it is simply imstyayate 'stiffens, coagulates', originally='comes to a stand') was probably due to the normal phonetic change of thy to ty, see 48a in vol. 34, p. 15; but dissimilation of aspirates in compound and reduplicated forms will account for many cases of t for th. Derivatives of stha liable to confusion with derivatives of es 'to be'. In Sky. sv-astis 'well-being', asti is 3d sg. of the verb, nominalized as Eng, habitat is nominalized, cf. Athapascan nouns like nanya

'rain', literally 'it comes down'. In Greek eu-esto esto started as an imperative of the root es—unless it is a reduplicated form from stha. As the stha compounds were being taken for derivatives s was often lost in heavy consonant groups such as k(s)th and r(s)th. In Latin sth after t (and other consonants) yielded ss. Etymologies of Lat. pussula pustula 'little blister', assula astula 'fire-sticks, splinters', asser 'rafter', passer 'sparrow' (=dust-sprinkler, or hole-coverer), Gr. strou-thos 'sparrow' (=pile-maker).

Place-words from stha: Skr. go-sthas 'cow-stall', prati-stha- 'standing-place', stha-patis 'place-lord'; Lith. dim-stis 'home-stead'; adverbs like Skr. sam-sthe 'on the spot', cf. a-stha anu-sthu, Lat. prae-sto(d) 'before' (the place), Skr. ava(s)stat 'below' (the place). Words meaning house from their retirement, cf. Lat. po-sticum (lit. off-standing) 'back-house': Skr. pa-stiyam 'house'; Lat. postis 'post', lit. off-stander (from the door); Eng. to fast= to stand off (from food). Skr. ar[s]thas 'goal', lit. 'go-place', tir[s]tham 'ford' (crossing place), kastha 'goal' run-place. Lat. infesto (ablv, (from in-faye(s)to(d)=in a dangerous place): Skr. bhaya[s]-stha 'danger-place'.

Posture and position words. Skr. pro-stha lit. 'fore-stander'= bench, Avestan vanharə-sta=in veste stans, i. e. 'clothed', Lat. onu(s)-stus=in onere stans i. e. 'burdened'. Lith. pesczas (from ped-sthyos)=in pede stans, cf. Gr. pezos above and Skr. rathe-sthas 'chariot-fighter' (lit. stander); Gr. an-oisti=not-open-standing i. e. secret; [oio 'I believe' from the root wei 'to desire', cf. Eng. be-lieves, cognate with loves]; Gr. megalosti (advb.)=over great distance standing i. e. extensively; Lith. auksztas=high-standing, cf. Lat, augustus. Lat manufe-stus=in the hands standing. Gr. agchi-stinos=near-standing, pro-mne(s)-stinos = prae-manu-stans; Lat. clande-stinus = secret-standing, media-stinus=mid-standing (servant of mid degree), libertinus= free-standing; intestina=within-standing.

Numerals with -sthos 'standing': -sthos in the numerals due to the fact that the fingers were raised or standing in the digital count. Italo-Celtic tristhos '3d'=tip-standing (of the long mid finger); Av. puxda '5th' is from pug-sthos 'fist-standing'. [Skr. panktis in a riddle meant 'fist' then 'hand']. Latin sextus '6th' from original ksw-eks-sthos=co-out-stander, i. e. the projecting (right) thumb in the digital count. [Preposition sku 'with' cog-

nate with Lat. sequor 'I follow']. Skr. catur-[s]thas '4th' and Av. sapta-[s]thas '7th' have the posterius -sthos. Lat. octavus from oc[s]tavus=tip-standing (of the right mid-finger). For all these definitions of the finger names parallels from Indian languages were adduced.

Superlatives in -sthos: Skr. yaj-i-sthas=in sacruficando stans, of a 'steady' sacrificer; does not differ from the later and transparent compound yajna-sthas, same meaning. The Vedic value as a participle, rather than a true superlative, attested by Gr. leistes 'robber', i. e. in robbing steady, Av. havi-sta 'acolyte', i. e. in pressing (the sacred wine) steady, Lat. lani-sta 'trainer' (of gladiators)=in slashing steady.

Outstanding material objects: Skr. apa-stha- 'barb, point', cf. Lith. ak-stis 'spit' i. e. sharp-standing and Skr. as-tra- 'sharp-borer'. Lat. de-stina 'prop', Av. srvi-stay 'arrow'=on bow standing. [Lat. sagitta, from sagi-sta, same meaning]. Lat. ungustus=hooked cudgel.

Vegetal growths: Skr. sthavaras vegetable (adj.), Gr. sitos (for stitos 'standing grain'; bla-ste 'sprout'=soft standing; ma-sti- 'whip' from mad- 'to cut'+sti- 'stake, rod, whip'; agrostis limnestis, field and marsh plants; ako(s)stē 'barley', aka(s)stos 'maple', Eng. gorst 'genesta', all sharp or burry growths; cf. Lat. hor-deum 'barley', lit. bristly growth; Lat. arbu(s)stum 'tree-place' (lit. tree-stand); ari-sta 'awn' i. e. tip-standing, gene(s)sta 'broom' i. e. knee-standing; hasta 'spear': O Ir. gasta 'sprout', both from gho(s)stha 'outstanding' [a from o in hasta by assimilation]. Gr. o-zos 'bough' from o-sdos 'on-sitting': Goth. asts from o-sthos 'on-standing'; Lat. fustis 'cudgel'; Skr. ya[k]stis 'sprout' (: Gr. ik-rion with ik :yak); ka[l]stham: Lat. culmus 'stalk'; Lat. f[l]i-stula=swell-stalk: Eng. blister.

Parts of body: [Lat. pal-ma 'palm': pellit 'strikes']. Skr. angu-sthas 'thumb', lit.=on standing [Eng. ankle, orig. 'joint']; Skr. apa-st(h)i- 'nail, claw', ku-stha 'spout': Gr. ku-stis 'bladder' orig.=hollow-standing. Same sense behind Skr. ko-sthas 'treasury': Latin. cu-stod- 'guard' (of treasure); Skr. ava(s)sthas and other private organs=sub-stans, etc. cf. Gr. po-sthe lit.='abstans', NHG. leiste, Lith. ink-stas; Skr. pr-stham 'back', pr-stis 'rib', Gr. aknestis 'backbone', Germ. first 'ridge of roof', all='forth- (or top-) standing'; -sthos in words for lip or mouth, Skr. o-sthas

e. g. Thigh and shank group; Av. paiti-stana-, Lat. (s)tibia, Skr. sak[s]thi-; cf. Skr. a-sthi- 'bone', Lat. co-stae 'ribs', i. e. con-stantes. Breast group: Gr. stenion, Skr. st[h]anau, Av. fstana- [but Lith. spenys=swelling]; Gr. stethos, ma-stos ma-sthos ma-zos. [cf. also mouth-names like Gr. mu-stax]; Eng. breast; [Lat. frons 'forehead']; Lat. cri-sta 'crest', i. e. on head standing [crinis 'hair'=on head lying], cf. Skr. prthu-stu- 'broad-crested'; Skr. anta(s)-styam 'intestine'.

Hand and finger group: Skr. ha-stas gabhastis, O Bulg. grusti 'handful' Eng. fist, Lith. pir-sztas 'finger', Albanian glist 'finger'; Eng. wrist, Skr. mustis 'fist' [Lat. muto].

Animals and their stalls: Eng. stud, Skr. grstis 'heifer', Gr. por[s]tis 'heifer'; Goth. awi-str 'sheep-stall', orig. sheep-straw; same posterius ster in Eng. bolster, Goth huli(s)str 'cover'.

Servants and masters: Skr. abhi-stis, upa-stis, stin (acc. pl.) 'clients', nare-sthas 'man-serving'; Gr. pene(s)-stes, (house-servant) agro(s)-stes 'farm-servant', alphe-stes 'wage-servant', Lat. domesticus, mediastinus, O Bulg. ogni-sti 'fire-servant'. Skr. apnah-sthas 'property-owner', Gr. tele(s)-sta 'magistrate', O Bulg. staro-sta 'mayor', Gr. themi(s)-steus 'law-stablisher', Germ. fürst 'prince': Skr. pra-sthas. Av. frae-sta 'messenger'. Lat. scele(s)-stus 'crime-master.' Trans. sense of -stes in Gr. Thyestes 'incense stablisher'. Lat. sospes is from swo-sti-potis='suorum clientium dominus'.

Inhabitants, wanderers, strangers: Lat. caelestis=in caelo stans; Gr. ore(s)-stiades 'mountain-dwelling'; Lat. ho(s)-stis 'outstander'; Skr. atithis 'guest' from ati-[s]this 'in wandering stopping' [Gr. x-en-vos=ex-in-habitans].

Remainders and addenda: Lat. pe(r)stis=pestilence, orig. persistent, epidemic; lucusta 'grove-dweller'; crusta hard-standing, gurgu-stium cave-house; Skr. pat-tis 'footer' from pad-sthis 'footstander'; Gr. agorastes 'market-servant'; akonti-stes=at javelin standing i. e. 'lancer'; kithari-stes 'harper', aspi[si]stes 'spearman', Skr. hari-stha- 'sorrel (horse) stander', cf. elephanti-stes 'mahout', but keleti-(hi)zein='on a steed to sit'; kithari-stus 'cither-standing' (i. e. playing) but kithari-(hi)zein='at cither to sit' (i. e. play); mne-steuein 'to sit (lit. stand) up to a woman', whence 'to woo'. But oion-(v)istes 'prophet, haruspex' is lit. avium gnarus or 'bird-knower'.

FAY, EDWIN W., *Professor of Latin.* "Lucilius on *i* and *ei*." *American Journal of Philology,* XXXIII, pp. 311-316.

The fragments of Lucilius (150 B. C.) contain a few rules of orthography clearly propounded in opposition to the spelling reform program of Accius. As regards the i-sounds Accius' proposal was to spell short i as I and long i as EI, and it is perfectly clear that for some time (long) i had been the sound given to ei. The counter rules of Lucilius, while sometimes in accord with the genuine historical spelling of the classes of words, or rather forms, adduced, are shown to have been formulated as mere mnemonics. They may be stated as follows: First, when singulars and plurals of one and the same word terminate in the sound which is the long of short i use I for the singular, EI for the plural, to typify that plurality; second, when dative and ablative singular end in this sound use EI for the dative because it is the case of the receiver (to him that hath shall be given) but I (i. e. take away E from EI) for the ablative (the case of separation). The less general rules are; third, spell pila 'ball' and pilum 'pestle' (i. e. pounder), spite of their quantity difference, with plain I; but the plural of pilum meaning javelins (from pounders, the original war club, doubtless) with EI; fourth, spell meille 'thousand' (sg. form) as well as its plural meillia with EI, for meille is a plural; also spell meiles and meilitia 'soldiery' with EI. It is not clear from the fragments whether this was because meiles was felt as a collective or as a derivative of meille (on the ground that a regiment was made up of a thousand men).

It was pointed out how, from the injunction to spell peila 'javelins' and meiles 'soldiery' with EI, later grammarians abstracted the rule "use EI for long i in things 'meilitary' ".

GRIFFITH, R. H., *Adjunct Professor of English.* "Some Notes on the 'Dunciad.'" *Modern Philology,* X, pp. 179-196 (October, 1912).

The bibliography of Alexander Pope remains a tangled wilderness. For no single poem is our information complete. So long ago as 1854 the experts began unraveling the tangles connected with the "Dunciad," one of the three most important of Pope's poems. These "Notes" continue the discussion begun then by

W. J. Thoms, editor of *Notes and Queries.* Four topics are developed.

I. The "New Dunciad" of 1742, later called Book IV: a summary of previous bibliographical information; a list of eleven editions (the longest previous list contains only five); the dates and circumctances of the composition of this portion of the "Dunciad."

II. The Coronation of King Colley: evidence that Colley Cibber was not made the hero of the satire before the issue of the quarto edition of 1743.

III. Two undated editions—proof that 1735 is the correct date for both the undated editions, a small octavo and a large paper folio which sometimes occurs bound separately but with only a half title, no title page; the dependence of both these upon the so-called "Second Edition" of 1729.

IV. Some Unnoted Variants: these are the quarto works, Volume II, of 1735; a variant of the small octavo works, Volume IV, of 1736; and a variant of the octavo works, Volume V, of 1751.

HANEY, L. H., *Professor of Economics.* "Opportunity Cost." *American Economic Review,* II, pp. 590-600 (September, 1912).

The idea underlying the arguments of many individualists is that costs are relative and are determined by the alternatives, or opportunities, which lie open to producers. But opportunities are determining only when utilities are balanced against disutilities and the *net* situation is considered; which means that positive, "pain" costs enter the situation and are ultimately the determining factors. Opportunities are price-determined, rather than price-determining.

HANEY, L. H., *Professor of Economics.* "Der Einfluss des Sozialismus auf die Volkswirtschaftslehre." *Archiv für die Geschichte des Sozialismus und der Arbeiterbewegung,* III, pp. 463-480 (March, 1913).

No conflict exists between Socialism and Economics; but rather a difference in scope—Socialism undertakes more than Economics. Socialistic criticism of the analyses of economics, however, has exerted much influence upon the development of economic thought. This influence became effective about the year 1850, beginning in

Germany, though in part inspired by such French writers as Proudhon. It began with a true concept of society as opposed to government, or the state. Socialistic thought did not become much of a factor in the United States until about 1885, a study of American writings showing no evidence of an appreciation of its meaning down to that date. (The reasons for this fact are set forth.) Socialism has caused an emphasis of the social point of view, a realization of the shortcomings of competition, an understanding of the industrial functions of the state, and has stimulated deeper analysis in the theory of value and of interest.

Socialism has been a counterpoise for individualism, making possible the establishment of truth at some point between the two.

HANEY, L. H., *Professor of Economics.* "Every-day Economic Errors." *Bulletin of the University of Texas,* No. 228 (April 22, 1912).

The more common notions concerning industrial problems are frequently vitiated because based upon circular reasoning which begs the question or puts the cart before the horse. This is illustrated by the balance-of-trade idea and its local counterpart, the patronize-home-industry notion. Such ideas as that rent is a price-determining expense, that speculation on produce exchanges is an evil in itself, that laborers are *generally* exploited, that the "law of supply and demand" dictates that prices shall vary in exact proportion with supply, etc., are analyzed and criticized.

HOUSTON, PERCY H., *Instructor in English.* "Dr. Johnson, Sentimentalism and Romanticism." *University of California Chronicle,* XV, pp. 1-24.

These two terms are first distinguished from each other; the former being a petty reaction from the world of fact, the latter being larger, freer, more powerful in its expression of profounder emotions. Dr. Johnson's attitude to the first of these is considered as expressed in his two imitations of Juvenal, in his periodical essays, and in *Rasselas.* His reaction from the sentimental point of view and various sentimental doctrines is shown by quotations from Boswell and from his works. Also his attitudes towards the novelists Richardson and Fielding and towards Rousseau are exam-

ined. His failure to perceive the distinction between the sentimental, which is at all times constant, and the true romantic, which was beginning to make itself felt, is dismissed. After some exposition of his critical remarks about the true feeling for great literature, one after another of the phases of the new movement is examined in the light of Johnson's attitude towards them. The poetry of the Warton brothers, Gray's odes, the poems of Ossian, the revival of the medieval romances, the Ballad Revival, and the romantic drama each receives consideration from this point of view. The paper concludes with an evaluation of the merits of Johnson's attitude and his merits and limitations as a critic of poetry.

HUNTER, WALTER S., *Instructor in Philosophy.* "A Note on the Behavior of the White Rat." *Journal of Animal Behavior,* II, pp. 137-141.

The present note reports some tests upon the white rat relative to the question of learning a problem by being "put through." Thorndike has argued that there is no such thing as association of ideas in animal consciousness, but only an association of impulses to movement. If an animal cannot learn to open a problem box or to climb into a box unless it does so by *innervating its own muscles,* then the animal lacks ideas. Thorndike tested cats by dropping them into a box just before feeding them. During the process of being dropped, the animals' limbs hung limply down. After from fifty to seventy-five trials no cat climbed into the box of its own accord.

L. W. Cole repeated the problem, using raccoons for subjects. He obtained opposite results, *i. e.,* after a certain number of trials his animals would turn after feeding and climb into the box.

The results obtained by the present writer are in harmony with those of Cole's work. White rats, when tested in the manner described, climbed back into the box after the 204th trial.

There are two criticisms of Thorndike's work: (1) He did not give his animals a sufficient number of trials. (2) It is against the native tendencies of cats to be put or to drop into holes. (3) On Thorndike's hypothesis that learning by being "put through" implies ideas, cats would rank lower in the mental scale than rats.

The influence of instinct with the rats and raccoons is rather

negative. "The important factor is association. The constant use of the box as a link in the food-getting series has made it attractive in itself; or, to state the matter differently, the very perception of the box has acquired motive power." The question of ideas is irrelevant.

HUNTER WALTER S., *Instructor in Philosophy.* "The Delayed Reaction in Animals and Children." *Behavior Monographs,* II, pp. v+86.

The reagents used were white rats, dogs, raccoons, and children. Associations were set up between getting food (or candy) and a light which might appear in any one of three directive positions. Tests were then made in which the light was turned off before the reagents were permitted to react. During the interval of delay, the subjects were confined in a release box from which all three light boxes could be seen. The interval of delay between turning off the light and releasing the subject was gradually increased until the maximal limit of delay was obtained. In addition data were secured on the method used in solving the problem.

The maximal delays of the various reagents varied as follows: Rats, no learning—10 secs.; dogs, 2 secs.—5 mins.; raccoons, 3 secs.—25 secs.; children, 50 secs.—25 mins.

There were no two or three objective stimuli which were presented simultaneously at each trial (such as the three spatial locations of the boxes) that could serve to determine the reactions. Such stimuli could not indicate where the light had been most recently. Differential responses must have alternating and not simultaneous cues.

A series of controls demonstrated that in the absence of the light there was nothing in the external environment that alternated from trial to trial which could serve as a guiding cue for the reactions. It follows from this that in successful responses some representative substitutes for the three positions of the light must be developed from within the subjects' bodies and used.

The rats and dogs solved the problem by maintaining gross motor attitudes of the whole or part of the body. If this attitude were lost, the reaction failed. The raccoons depended upon such cues for the majority of their reactions; but of those responses made from wrong body orientations, too large a number succeeded

to be attributed solely to chance. This and the following reasons force one to attribute to the raccoons the use of some internal cue other than gross motor attitude. (1) Correct reactions might be made in direct opposition to orientation. (2) Different correct reactions might be made from the same orientation. (3) The same correct reactions might be made from different orientations. And (4) wrong reactions often resulted from correct orientations.

The children were never dependent upon gross motor attitudes.

The behavior of the rats and dogs can be stated in terms of habit, but that of the raccoons and children requires the assumption of an ideational function whose content may be regarded either as sensory or as imaginal, depending largely upon the interpreter's psychological prejudices.

LAW, ROBERT A., *Adjunct Professor of English. "Richard the Third,* Act I, Scene 4." *Publications of the Modern Language Association of America,* XXVII, pp. 117-141 (June, 1912).

This is an effort to prove that Shakespeare in the scene named, where Clarence is murdered in prison, followed closely the situation and in some instances the wording of a similar scene in the anonymous *King Leir,* where an attempt is made to murder the king with his companion. For the greater part of his play Shakespeare draws material from prose chronicles of the time, but the chronicles have practically nothing corresponding to the long scene of Clarence's murder. That Shakespeare was familiar with the old *Leir* when about 1605 he wrote his own tragedy of similar title, is easy to prove. But the *motif* of attempted murder of the aged king is not employed in the later play. The older *King Leir* was composed about 1592 or 1593, not far from the date of composition of *Richard the Third.* Parallelisms of incident and of language are too striking to be explained away; that Shakespeare was indebted to the *Leir* thus early seems to be the most plausible solution of the problem. Such indebtedness affects questions of the date and the text of *Richard the Third,* and affords an interesting example of Shakespeare's methods of workmanship.

LAW, ROBERT A., *Adjunct Professor of English.* A special article on early American theatres in the "News for Bibliophiles" column of *The Nation,* XCVI, p. 201 (February 27, 1913).

Several errors are pointed out in Seilhamer's three volume *History*

of the American Theatre, the standard work on that subject. These errors result from overlooking the existence of two early theatres in Charleston, South Carolina, and the consequent belief, expressed in many published accounts, that the history of American theatres begins in New York, in Boston, in Philadelphia, or in Williamsburg, Virginia, about 1750. By means of contemporary newspaper notices and an unpublished diary it is shown that on February 21, 1736 was acted in a new theatre in Charleston, Otway's *The Orphan,* a famous English tragedy, and that stage representations were frequent in that city from this time on till 1776. It is also shown that the well-known "American Comedians," the first English company of actors known to have visited America, played in repertoire in another Charleston theatre from December, 1763, to April, 1764, though Seilhamer states that the first dramatic performance in South Carolina occurred ten years later. Again it is noted that the prices paid for seats in the Charleston theatres before the American Revolution consistently remained several times larger than the prices paid in other American cities.

MILLER, E. T., *Instructor in Economics.* "Some Tax Needs of Texas," Bulletin of the University of Texas, No. 236, pp. 123-130 (June 22, 1912).

The general property tax, which is the source of over sixty per cent of the State's revenue from taxation, operates very unequally among the counties. In 1911, land was assessed in one hundred and eighty-two counties at varying percentages under sixty per cent of its true value. Because of special methods of taxing corporations, they are more nearly taxed in accordance with the principle of ability to pay than are individuals. Either separation of state and local sources of revenue or centralized administration is needed to correct inequality in the taxation of land. As a remedy to the escape of intangible property, the classified property tax has commended itself to a number of the American States. There may be doubt as to the proper remedies, but there is none that a special tax commission to study the taxation problems of Texas is needed.

MILLER, E. T., *Instructor in Economics.* "Repudiation of State Debt in Texas Since 1861." *The Southwestern Historical Quarterly,* XVI, pp. 169-183 (October, 1912).

Texas had no bonded debt when the Civil War began, but at its

close the bonded debt was $1,126,130 and there was also an estimated unfunded debt of $6,994,700. In 1866, all of the debt in aid of the war was repudiated, and the auditorial board which was appointed to distinguish the valid and invalid portions reported a valid debt of only $322,436. Bonds were issued to take up the validated portion of the debt, but the Congressional Reconstruction Acts of 1867 and the new State Constitution of 1869 rendered it necessary to review the work of the old auditorial board. A new board was established in 1871, but it approved the findings of the old board. The failure to pay promptly the interest on the bonds issued in 1866 is not to be charged to the State but to congressional interference. The debt due the school and university accounts is not subject to debt canons, and failure until 1883 to pay it was not strictly repudiation. There has been no repudiation of debt by Texas since 1861, except such as was made necessary by Federal legislation.

PATTERSON, J. T., *Adjunct Professor of Zoology.* "A Preliminary Report on the Demonstration of Polyembryonic Development in the Armadillo (*Tatum novemcinctum*)." *Anatomischer Anzeiger,* XLI, No. 13 (1912).

One of the most fundamental problems which are at present engaging the attention of biologists, and one which is also of very general interest, is that which concerns the question of the determination of the sex of animals and of man. Within the last few years many ideas have been advanced in support of certain theories which seek to explain the method by which the sex of the offspring is determined, and exceedingly searching and accurate studies have been made upon the structure of the germ cells and upon the early developmental stages of animals in an endeavor to discover just what conditions or influences are effective in producing either the one or the other of the two sexes.

A satisfactory explanation of the ultimate cause of maleness and femaleness is yet to be offered, and from the very nature of the problem may never be forthcoming. However, with our present knowledge it can be stated that the sex of an individual is well established at a very early period of development, although there are differences of opinion as to just when this characteristic becomes fixed. According to the ideas of some, the determining

factors are already present in one or both of the two germ cells (the egg and the sperm) and the sexual character of the resulting individual can in no way be modified during the developmental period which follows fertilization. According to the views of others, the sex is not determined when the germ cells fuse, but it may be influenced by conditions which surround the developing embryo. If the first idea is correct, all attempts to control the sex of offspring by modifying the environmental conditions under which they develop, by selective feeding or by more indirect methods, are in vain. If the second view is correct, it may be possible to modify the sex of the offspring by subjecting them to directive influences during the period of their embryonic development. Of these two alternatives the first is generally held by biologists of the present day, and there has been collected a considerable amount of evidence in favor of sex-determination at the time of fertilization.

The paper which forms the subject of this review presents some facts obtained from a study of the development of our Texas Armadillo which have a very distinct bearing upon this question. As has been described in several preceding papers, this animal gives birth normally to quadruplets, and the interesting fact is disclosed that all four of these young are of the same sex and all are in other characteristics extremely similar. Not only is this true, but it is further shown that the entire litter is surrounded by one embryonic membrane. These two phenomena, similarity amounting to identity and enclosure within a common membrane, are recognized by embryologists as indicating derivation from a single egg cell.

While as yet it has not been possible to trace all the stages in the development of the Armadillo quadruplets from one fertilized egg to four well-developed embryos, the facts brought forward in this paper give additional and conclusive evidence of the correctness of this supposition. A very early stage in the formation of the embryos shows a mass of cells lying within the embryonic vesicle. At a little later period this mass gives off two distinct buds, each one of which again divides. There are thus formed from the original disc-shaped rudiment four buds, each one of which will later develop into a young Armadillo. The embryonic cell-mass of the Armadillo is similar in appearance to the em-

bryonic rudiment which in other mammals normally forms a single embryo and which is itself derived by a process of cell division from a single fertilized egg. The evidence therefore points conclusively to the deduction that the embryonic rudiment which in the Armadillo gives rise to four embryos is likewise derived from one fertilized egg, and this conclusion is strengthened by the location of the four embryos within a single embryonic membrane. Bearing these facts and considerations in mind, one is naturally led to the conclusion that the fertilized egg which produces the Armadillo quadruplets has, by the time of fertilization, acquired its definite sexual character, since all four embryos are invariably of the same sex. The sex of the offspring is determined in the egg.

It has hitherto been supposed that when two or more embryos are formed from one egg the process of separation is completed when the egg first divides to form two cells (in the case of twins) or after its second cleavage to form four cells (in the case of quadruplets). From the above account it is apparent that such is not the case with the Armadillo, for here the cleaving egg first forms an extensive and united cell-mass from which the four embryonic buds are later given off. By inference we may suppose that a similar budding process gives rise to human twins and quadruplets which are of the same sex, which are almost identical in appearance, and which are enclosed in a common embryonic membrane.

The fundamental character of the results above noted has aroused more than local interest. During the past winter the Harvard Exchange Professor with the University of Berlin made extensive reference in his lectures to the Armadillo work which has been conducted at this university during the past few years, and he was furnished with illustrative material from the preparations of Dr. Patterson.

D. B. C.

PATTERSON, J. T., *Adjunct Professor of Zoology.* "The Uterine Spindle of the Polyclad, Planocera Inquilina." *Biological Bulletin,* XXIII, No. 5 (October, 1912).

When a living cell divides to form two, the process is iniitated by the formation of a spindle-like structure around the opposite ends of which the protoplasmic material of the cell aggregates as

the two daughter cells are formed. To the biologist the appearance of a spindle within a ceell is good evidence that the cell is about to divide, for innumerable observations have shown that spindle formation is a preliminary step in cell multiplication. The investigation which this paper describes deals with a supposed exception to this general rule.

Several students of cell-structure have in the past described a peculiar "vanishing spindle" which was said to appear in the eggs of certain parasitic worms just before the eggs become mature. This spindle is said to develop to its full size and then gradually to disappear without the resulting division of the egg cell.

An investigation of this supposedly exceptional state of affairs reveals the following facts: When the spindle first appears it is of large size and lies near the center of the cell. As the egg approaches its mature stage, the spindle moves toward the cell wall, at the same time shortening somewhat and becoming almost invisible unless stained with suitable reagents. It does not now "vanish," as others have thought, but shortly thereafter its presence initiates the formation of one of the two small cells (polar bodies) which all eggs give off when preparing for the process of fertilization. This spindle is, therefore, shown to be neither abortive nor vanishing, and a supposed exception proves to be merely another case of faulty observation.

D. B. C.

POTTS, C. S., *Associate Professor of Government.* "The Convention System and the Presidential Primary." *American Monthly Review of Reviews,* XLV, pp. 561-566 (May, 1912).

This article presents the objections that have been urged against the convention system, especially as used in nominating candidates for president and vice president, and gives some account of the development of the presidential primary to date. The most serious objection urged against the convention system, especially the Republican National Convention, is the inequalities of representation due to the fact that delegates are apportioned to the States according to the electoral vote of the states, rather than according to the strength of the party in the several states. In this way the Southern States, in which the Republican party is practically non-existing, are given a large share of control in nominating the

Republican candidates. It is pointed out, too, that the Republican party in the Southern States is made up to a very large extent of Federal office holders who are beholden to the President for their appointment and who are therefore ready to do his bidding either in renominating him for a second term or in nominating some protegé of his.

Another objection urged against the convention system is the method of selecting the delegates, not by the people directly, but by conventions made up of delegates from other delegate conventions, three or four degrees removed from the people. "At every successive re-move," says John C. Calhoun, as quoted in the article, "the voice of the people becomes less full and distinct, until at last it becomes so faint and imperfect as not to be audible."

An account is given of the development of the presidential primaries in a number of the states, and the possibility of a national presidential primary to be held in all the states at the same time without reference to State lines, is pointed out.

POTTS, C. S., *Associate Professor of Government.* "The Unit Rule and the Two-thirds Rule; Undemocratic Devices Used by the Democratic Party." *American Monthly Review of Reviews,* XLV, pp. 705-710 (June, 1912).

This article calls attention to the growing distrust of the convention system, and attributes this distrust in large part to the swapping and trading and log-rolling made use of in the conventions. The writer believes that the unit rule and the two-thirds rule are important factors in making possible these objectionable tactics, for by the unit rule the entire delegation from a state is placed in the hands of the state boss, as his stock in trade, while the two-thirds rule by blocking the will of the majority makes it possible for a small but determined minority to have its way, and thus increases greatly the opportunities for barter and trade. Illustrations are drawn from the history of our political parties showing how Clay was defeated in 1840 by the use of the unit rule, and Van Buren in 1844 by the use of the two-thirds rule, at a time when he had a clear majority of the delegates on the first ballot.

The article concludes with an attempt to foretell the probable results of the use of the unit rule and two-thirds rule in the Democratic Convention about to assemble in Baltimore.

SACKETT, LEROY W., *Instructor in the Philosophy of Education.* "The Canada Porcupine—a Study of the Learning Process." *Behavior Monographs,* II, No. 2, Serial No. 7.

This monograph is a report of a somewhat extended laboratory study of the reactions of the Canada porcupine (*Erethizon Dorsatus*) to various controlled stimuli. It is prefaced by a brief report of the author's study of the animals in their native haunts—a study made necessary by the fact that biologists and psychologists know little about the porcupine and naturalists have a great many erroneous conjectures concerning it. The necessity of knowing the animal's habits in his native haunts in order to interpret his behavior under controlled laboratory conditions is well brought out in this study. The following topics receive somewhat careful attention: Manual dexterity,—righthandedness and lefthandedness; puzzle-box problems; use of form, color, brightness and special markings in determining behavior; maze threading under constant conditions and variations of illumination, inclination, rotation, and location. The study is preliminary in that it opens and outlines many more problems than it assumes to solve.

SIMONDS, FREDERIC WILLIAM, *Professor of Geology.* "Geographic Influences in the Development of Texas." *The Journal of Geography,* University of Wisconsin, Madison, X, pp. 277-284 (May, 1912).

The subject, as above given, has been treated under six heads: (1) Physiographic Features, (2) Climate and Rainfall, (3) Rivers, (4) Historical Relations, (5) Railroads, and (6) Cities.

1. Under Physiographic Features are included descriptions of the Texas Coast and Coastal Plain, the Eastern Forested Area, the Black and Grand Prairies, the Central Basin, the Balcones Scarp, the Edwards and Stockton Plateaus, the Staked Plains, and the Trans-Pecos Region of Mountains and Basins. This portion of the article is illustrated by a sketch map outlining the chief topographic divisions of the State.

2. The Climate and Rainfall are briefly treated, although in an area of so great extent (Texas includes 265,780 square miles) many and great variations are encountered. This is well shown when a comparison of the rainfall at El Paso, 10 inches per annum

(average), is made with that of the eastern humid belt, which reaches 50 to 60 inches.

3. The various types of rivers are discussed, including the Canadian and Rio Grande flowing from the Rocky Mountains; the Nueces, Frio, and Guadalupe flowing from the Edwards Plateau; the greater rivers, the Red, the Trinity, and the Brazos, working their way seaward from the Central Basin; the streams of the older portion of the Gulf slope, such as the Sabine, the Neches, and the Angelina; and, lastly, the streams constituting the immature drainage of the Coastal Plain.

4. Under Historical Relationships there is given a general review of the settlement of Texas, in which the "geographical influences" are emphasized, as, for example, the relation of coastal inlets to immigration and later to commerce; the influence of springs and rivers in the upbuilding of communities, so well exemplified by the growth of the missions at and near San Antonio, etc.

5. The effects of topography upon intercommunication are next discussed and the development of railroads in Texas considered.

"An examination of a railroad map of the State is most interesting. North of the 28th parallel and east of the 99th meridian the conditions have been most favorable for railroad building. The larger part of this area is included in the Great Coastal Slope, a region embracing the Coast Plain, the Forested Area, and the Black and Grand Prairies, geologically distinguished by the southeastern dip of the underlying strata. In the process of their development some of the railroads pushed to the north for St. Louis and Kansas City, while others pushed to the south and southeast for the port of Galveston. Still others headed southwest seeking the Rio Grande border for Mexican or transcontinental connections. Finally the Great Plains were crossed by roads affording Colorado and New Mexico, either directly or by affiliated lines, the advantage of a deep water port."

The following statement is significant: "Railroads are not only expensive to build but expensive to operate. Of competing lines the advantage is with that having the lowest grade. Between New Orleans and Los Angeles, or San Francisco, the highest point encountered on the 'Sunset Route,' 5082 feet, is at Paisano, Presidio county, Texas. In short, this line avoids the high grades of the more northern roads by a well selected southern course."

6. Cities. "The chief railroad centers of the State, ganglia on the map, are Houston, on the inner border of the Coast Plain, and Dallas and Fort Worth, on the Black and Grand Prairies, respectively.

"Through Buffalo Bayou, Houston, though fifty miles northwest of Galveston, has water connection with the Gulf, and, if present plans are consummated, this water-way will soon be transformed into a ship canal, thus making the city a seaport. Already seventeen railroads center here, of which several extend to Galveston. Houston is one of the great cotton markets of the world and the seat of an important trade in lumber, rice and sugar."

"Dallas dates from 1841. It is the commercial center of a large region, embracing parts of Texas and Oklahoma, devoted chiefly to agriculture. The adjoining prairies are noted for their fertility, producing not only cotton but large crops of wheat and corn. To Dallas has been awarded the distinction of being the largest distributing point for agricultural implements in the Southwest."

"Fort Worth, thirty miles west of Dallas, originated in a settlement about a military post established in 1849. For years it has been the seat of trade for the 'cattle country,' including not only the Panhandle but the entire plateau region between the Red River and the Pecos. Its stock yards and packing interests are the most extensive in the Southwest, and considering its proximity to Dallas, its growth in the past few years has been remarkable."

Throughout the article the underlying thought is that in the development of a State or country much is physiographically predetermined.

YOUNG, STARK, *Adjunct Professor of General Literature.* "Le Legataire Universel (The Sole Heir): By Jean François Regnard. Translated for the Curtain Club." Bulletin of the University of Texas, No. 259, pp. 88 (1912).